

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

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To:
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FOR

BY

DATE

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DATE

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

Date of mailing
(day/month/year)

20 JUN 2005

Applicant's or agent's file reference

FOR FURTHER ACTION

See paragraph 2 below

3030-74361

International application No.

International filing date (day/month/year)

Priority date (day/month/year)

PCT/US04/37345

08 November 2004 (08.11.2004)

19 January 2004 (19.01.2004)

International Patent Classification (IPC) or both national classification and IPC

IPC(7): F01B 9/00, 1/06 and US Cl.: 92/140, 148

Applicant

ILLINOIS TOOL WORKS INC.

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☒ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/ US

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**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

PCT/US04/37345

Box No. I Basis of this opinion

1. With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ This opinion has been established on the basis of a translation from the original language into the following language _____, which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).

2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:

a. type of material

☐ a sequence listing

☐ table(s) related to the sequence listing

b. format of material

☐ in written format

☐ in computer readable form

c. time of filing/furnishing

☐ contained in international application as filed.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority for the purposes of search.

3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

4. Additional comments:

IAP11 Rec'd PCT/PTO 18 JUL 2006

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/US04/37345

Box No. V Reasoned statement under Rule 43 bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims <u>NONE</u>	YES
	Claims <u>1-14</u>	NO
Inventive step (IS)	Claims <u>NONE</u>	YES
	Claims <u>1-14</u>	NO
Industrial applicability (IA)	Claims <u>1-14</u>	YES
	Claims <u>NONE</u>	NO

2. Citations and explanations:

Claims 1-8 lack novelty under PCT Article 33(2) as being anticipated by Webb (US 1,316,258).

Webb discloses an assembly of multiple fluid pumps each having a moveable component, and a crank (4) coupled to the moveable component, at least two of the moveable components defining a non-zero included angle. The crank includes at least two throws, the apparatus further includes at least two connecting rods (8), the at least two throws include at least n throws, n an integer greater than 2, wherein each throw defines an included angles with two other throws equal to $360/n$. Wherein the pumps are coating material pumps.

Claims 9-14 lack novelty under PCT Article 33(2) as being anticipated by Benedek (US 2,697,403).

Benedek discloses an assembly of multiple fluid pumps each having a moveable component, a cam (20a-c) coupled to the moveable component, and at least two followers (5b) coupling the moveable components to the cam. The cam is configured to drive at least two of the pumps so that at least two pumps reach the beginning of an exhaust stroke at the same time the other two begin a priming stroke. The apparatus further includes m cams, m an integer greater than or equal to 2, with p lobes, p an integer greater than or equal to 2, wherein a line drawn between peaks of two adjacent lobes of one of the cams makes a non-zero angle with lines drawn between peaks of any two adjacent lobes of another cam (Figures 9-11). Wherein the pumps are coating material pumps.

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

PCT/US04/37345

Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the questions whether the claims are fully supported by the description, are made:

Claim 1 is objected to as lacking clarity under PCT Rule 66.2(a)(v) because the claim is not fully supported by the description. The application, as originally filed, did not describe: non-zero included angles between the "moveable components". It appears that "moveable components" refers to the "operating rods" (122-1-n) and/or the associated pistons. The specification only describes the offsetting of the throws of the crankshaft to have "non-zero" included angles defined between them for this embodiment.